

## **Civil and Environmental Engineering PhD Dissertation Proposal and Defense Guidelines**

February 2017

As part of the requirements for completing a PhD degree in Civil and Environmental Engineering Department, students must write and defend a dissertation research proposal. There are two main objectives in writing the dissertation proposal: 1) articulate the student's research plan; and 2) serve as an opportunity for the student to gain valuable experience in proposal writing, which is a necessary skill for success in academic and industry positions. This document provides guidance for PhD students to prepare a dissertation proposal.

**Timing:** Students must submit and defend their research proposal after, but no later than 6 months after, they have passed the comprehensive exam and the proposal should be approved 1 year before the final dissertation is defended.

**Length and Formatting:** The proposal should be no longer than 25 pages (not counting list of references). Proposals should use a standard, single-column format for the text with no less than 12 point font and 1 inch page margins.

**Contents:** The proposal should contain the following:

- Title page that gives the title, student's name, major professor and committee member names.
- 1 page project summary
- Project Description
- Data Management Plan
- References Cited. References cited do not count against the page limit.

The project description should address what the student wants to do, why they want to do it, how they plan to do it, and how they will know if they succeed. The project description should provide a clear statement of the work to be undertaken and must include objectives for the proposed work and expected significance. It should also provide a description of the present state of knowledge in the field and how the proposed work builds upon or advances the current state of knowledge. The project description should provide a plan and timeline for the proposed work, including a description of the activities to be undertaken, and, where appropriate, a description of the experimental methods and procedures to be used.

The project description must also contain a section labeled "Expected Results and Significance of the Proposed work." Within this section, students should describe the expected outcomes or products of their proposed work (e.g., what will you know or be able to do after you complete your work that you do not know or cannot do now?). This section should also discuss the significance of the proposed activities. Significance may include advancement of scientific knowledge, improved well-being of individuals or society, and other societally relevant outcomes.

The data management plan should include a description of the types of data (and/or other research products) that will be collected or generated and how they will be managed and preserved, documented and shared. Data products may include samples, physical collections, software, curriculum materials, or other research products. Any policies and limitations for data use and distribution (e.g., in the case of data involving human subjects) should be described.

**Reporting Preliminary Results:** It is appropriate and recommended to include some preliminary results in a proposal when those preliminary results motivate and justify the proposed research. However, the purpose of a proposal is to present new ideas and a plan to see those ideas to completion, and to receive feedback and suggestions related to the plan. It defeats the purpose of the proposal for it to be late in the program when work is substantially complete. This is the reason for requiring the proposal to be presented before the work is substantially complete and no less than 1 year before the final defense.

**How and When to Submit:** Students should submit their proposal electronically to their supervisory committee. Students should consult with their advisor to plan their submission. Proposals should be submitted to the committee at least 2 weeks prior to the planned proposal defense date to allow adequate time for the committee to review the proposal prior to the defense.

**Proposal Defense:** Students must schedule an oral defense of their proposal. The defense will include a presentation of the proposal to the supervisory committee, to be no longer than 40 min, followed by a period during which the committee will ask any questions regarding the proposed research plan. Following this presentation, the committee may approve the proposal, or require revisions and/or re-presentation of the proposal. Once the proposal is approved, this is certified by the committee approving the doctoral application for candidacy form.